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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/711,998 | 10/19/2004 | Norman D. McCollough JR. | | 5997 |

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NORMAN D. MCCOLLOUGH, JR
182 MCCOY RD
SHARON, NH 03458

EXAMINER

PATEL, DHARTI HARIDAS

ART UNIT PAPER NUMBER

2836

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/711,998 | Applicant(s) MCCOLLOUGH, NORMAN D. | |
| | Examiner Dharti H. Patel | Art Unit 2836 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/19/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-2 and 4-12 are rejected under 35 U.S.C. 102(b) as being unpatentable over Fernandes, Patent No. 4,829,298. Fernandes teaches a system for measuring and communicating various operating parameters, such as current, associated with electrical power conductors. With respect to claim 1, the reference discloses a method for determining a maximum current flow in the electric power line conductor 12 under faulted circuit conditions, the method comprises applying a specific frequency activation signal and code key from an exciter CRTU 14 positioned proximate to the faulted circuit monitoring 10 apparatus located on the power line conductor 12 as disclosed in Col. 1, lines 19-26, Col. 3, lines 49-55, Col. 5, line 3-5, Col. 12, lines 23-28 and Fig. 1; at the exciter CRTU 14, detecting a data signal from the faulted circuit monitor 10, the data produced by modulating a specific frequency faulted circuit monitor in response to a measured current parameter as disclosed in Col. 3, lines 49-55; at the exciter, receiving the faulted circuit data from the data signal; associating the

faulted circuit current magnitude with the conductor phase information for the particular faulted circuit monitor unit 10 as disclosed in Col. 4, line 39-49; repeating all of the above steps for all power line phase conductors 12 as disclosed in Col. 4, lines 3-4; and storing the data and phase conductor information in the memory of the exciter CRTU 14 (CRTU 14 is a microprocessor-based system operated by CPU 172 and CPU 172 is provided with RAM 88 for storing the data as disclosed in Col. 11, lines 53-68) for downloading to a host PC (Central Data Receiving and Control Facility is a host PC as disclosed in Col. 5, lines 11-23).

With respect to claim 2, Fernandes teaches a system wherein applying a specific activation signal comprises applying an un-modulated signal having a specific frequency chosen to resonate with a detection circuit of the faulted circuit monitor 10 as disclosed in Col. 1, lines 19-26, Col. 5, line 3-5, and Col. 12, lines 23-29.

With respect to claim 4, Fernandes teaches a system for monitoring various operating parameters, such as current, associated with electrical power conductors, wherein applying a specific frequency activation signal comprises applying a specific frequency as disclosed in Col. 1, lines 19-26 and Col. 5, lines 3-5.

With respect to claim 5, Fernandes teaches a system for monitoring various operating parameters, such as current, associated with electrical power conductors, wherein applying a specific activation signal comprises positioning

the exciter CRTU 14 apparatus near the faulted circuit monitor 10 to actuate the faulted circuit monitor with the specific frequency signal as disclosed in Col. 1, lines 19-26, Col. 5, lines 3-5 and Fig. 1.

With respect to claim 6, Fernandes teaches a system wherein a specific code key pattern of binary data are transmitted from the exciter CRTU 14 by modulation of the rf signal as disclosed in Col. 8, lines 29-32 and Col. 12, lines 23-28.

With respect to claim 7, Fernandes teaches a system wherein the faulted circuit monitor 10 apparatus responds to only a match with the exciter CRTU 14 transmitted code key as disclosed in Col. 12, lines 23-28.

With respect to claim 8, Fernandes teaches a system wherein detecting a data signal from the faulted circuit monitor 10 comprises detecting faulted circuit current magnitude information from the faulted circuit monitor data signal as disclosed in Col. 4, lines 39-49 and Fig. 1.

With respect to claim 9, Fernandes teaches a system wherein detecting the data signal from the faulted circuit monitor comprises detecting an impedance modulation of a radiated rf field of the exciter and decoding the data as the impedance modulation by operation of the faulted circuit monitor as disclosed in Col. 4, lines 39-46.

With respect to claim 10, Fernandes teaches a system comprising sequentially associating detected identification information with respective power line conductor phases as disclosed in Col. 4, lines 46-49. (Time and frequency

are used to separate and identify the information coming from each phase/monitor.)

With respect to claim 11, Fernandes teaches a system wherein downloading the faulted circuit monitor 10 data comprises communicating data over a hard wire link 46 as disclosed in Col. 5, lines 20-23 and Fig. 1.

With respect to claim 12, Fernandes teaches a system wherein communicating data comprises establishing a temporary connection 46 between the exciter CRTU 14 and the host pc (Central Data Receiving and Control Facility); conveying the data from the exciter to the host pc over the temporary connection as disclosed in Col. 5, lines 20-23, and breaking the temporary connection. The connection is considered to be broken when no data is being transmitted.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fernandes, Patent No. 4,829,298, in view of Banting et al., Patent No. 5,959,537. Fernandes teaches a system for determining a maximum current flow in the electric power line conductor under faulted circuit conditions but does not

disclose that the fault current response time of the faulted circuit monitor is slowed to allow for inrush conditions on the power line.

Banting et al. teaches a fault circuit indicator 100 that are installed at intervals along power distribution lines 140. Banting et al. teaches that it is well known in the art to slow the fault current response time of the faulted circuit monitor to allow for inrush conditions on the power line as disclosed in Col. 1, lines 17-22 and Col. 4, lines 47-51.

Both teachings are related by being fault circuit sensor modules for electric power line conductors. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Banting et al, which teaches a time delay of the faulted circuit monitor, with the electrical power line monitoring system of Fernandes for the benefit of giving the corresponding fuse or circuit breaker enough time to respond.

3.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dharti H. Patel whose telephone number is 571-272-8659. The examiner can normally be reached on 8:30am - 5pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2800, Ext. 36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DHP
12/06/2005



PHUONG T. VU
PRIMARY EXAMINER